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#14	Search **Journal of Biological Chemistry[Journal] AND 21196[Pagination]**	14:00:07	1
#13	Search **Journal of Biological Chemistry[Journal]**	13:59:50	129149
#9	Search **#2 AND Novo**	13:57:44	110
#6	Search **recombinant AND (scaffold OR matrix) attachment region AND clotting**	13:26:15	1
#5	Search **recombinant AND (scaffold OR matrix) attachment region**	13:26:01	103
#4	Search **factor VIIa AND recombinant AND (scaffold OR matrix) attachment region**	13:25:55	0
#3	Search **factor VIIa AND recombinant AND locus control**	13:25:29	0
#2	Search **factor VIIa AND recombinant**	13:25:05	869
#1	Search **factor VIIa**	13:24:45	1707

Clear History

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(FILE 'HOME' ENTERED AT 07:58:28 ON 23 FEB 2005)

FILE 'REGISTRY' ENTERED AT 07:58:41 ON 23 FEB 2005
E FACTOR VII/CN

INDEX 'ADISCTI, ADISINSIGHT, ADISNEWS, AGRICOLA, ANABSTR, ANTE, AQUALINE, AQUASCI, BIOBUSINESS, BIOCOMMERCE, BIOENG, BIOSIS, BIOTECHABS, BIOTECHDS, BIOTECHNO, CABA, CANCERLIT, CAPLUS, CEABA-VTB, CEN, CIN, CONFSCI, CROPB, CROPU, DDFB, DDFU, DGENE, DISSABS, ...' ENTERED AT 08:00:32 ON 23 FEB 2005
SEA FACTOR(W)VII

241	FILE ADISCTI
16	FILE ADISINSIGHT
43	FILE ADISNEWS
70	FILE AGRICOLA
8	FILE ANABSTR
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41	FILE BIOBUSINESS
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238	FILE CABA
432	FILE CANCERLIT
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3	FILE CEN
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302	FILE DDFB
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33	FILE IMSPRODUCT
9	FILE IMSRESEARCH
344	FILE JICST-EPLUS
260	FILE LIFESCI
5114	FILE MEDLINE
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12	FILE NTIS
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                1   FILE PHIC
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              117   FILE PROMT
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L2         22271 S FACTOR(W)VII
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                 SET ABBR ON PERM
L3          3248 S (SCAFFOLD OR MATRIX)(W)ATTACHMENT(W)REGION
L4            22 S L2 AND L3
L5            22 DUP REM L4 (0 DUPLICATES REMOVED)
L6             8 S SIMESEN,R?/AU
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L8           102 S FAISST,S?/AU
L9         11983 S JENSEN,J?/AU
L10           35 S WEILGUNY,D?/AU

=> s L6 AND L7 AND L8 AND L9 AND L10
L11            2 L6 AND L7 AND L8 AND L9 AND L10

=> dup rem l11
PROCESSING COMPLETED FOR L11
L12            2 DUP REM L11 (0 DUPLICATES REMOVED)

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     (FILE 'HOME' ENTERED AT 07:58:28 ON 23 FEB 2005)

     FILE 'REGISTRY' ENTERED AT 07:58:41 ON 23 FEB 2005
                E FACTOR VII/CN

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     AQUASCI, BIOBUSINESS, BIOCOMMERCE, BIOENG, BIOSIS, BIOTECHABS, BIOTECHDS,
     BIOTECHNO, CABA, CANCERLIT, CAPLUS, CEABA-VTB, CEN, CIN, CONFSCI, CROPB,
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              241   FILE ADISCTI
               16   FILE ADISINSIGHT
               43   FILE ADISNEWS
               70   FILE AGRICOLA
                8   FILE ANABSTR
                2   FILE AQUASCI
               41   FILE BIOBUSINESS
               43   FILE BIOCOMMERCE
               29   FILE BIOENG
             4462   FILE BIOSIS
              258   FILE BIOTECHABS
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              258   FILE BIOTECHDS
              811   FILE BIOTECHNO
              238   FILE CABA
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             3645   FILE CAPLUS
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              302   FILE DRUGB
               45   FILE DRUGMONOG2
             1123   FILE DRUGU
               38   FILE EMBAL
             3127   FILE EMBASE
             1021   FILE ESBIOBASE
               63   FILE FEDRIP
               64   FILE FROSTI
               31   FILE FSTA
              290   FILE GENBANK
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              422   FILE IFIPAT
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               33   FILE IMSPRODUCT
                9   FILE IMSRESEARCH
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              260   FILE LIFESCI
             5114   FILE MEDLINE
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               12   FILE NTIS
                1   FILE OCEAN
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               28   FILE PROUSDDR
                2   FILE RDISCLOSURE
             3871   FILE SCISEARCH
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             2052   FILE USPATFULL
              140   FILE USPAT2
                7   FILE VETB
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              402   FILE WPIDS
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              402   FILE WPINDEX
L1               QUE FACTOR(W) VII
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     FILE 'MEDLINE, BIOSIS, SCISEARCH, CAPLUS, EMBASE, USPATFULL' ENTERED AT
     08:03:07 ON 23 FEB 2005
L2         22271 S FACTOR(W)VII
                 SET PLURALS ON PERM
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L3          3248 S (SCAFFOLD OR MATRIX)(W)ATTACHMENT(W)REGION
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L4            22 S L2 AND L3
L5            22 DUP REM L4 (0 DUPLICATES REMOVED)
L6             8 S SIMESEN,R?/AU
L7          2699 S PEDERSEN,A?/AU
L8           102 S FAISST,S?/AU
L9         11983 S JENSEN,J?/AU
L10           35 S WEILGUNY,D?/AU
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L12            2 DUP REM L11 (0 DUPLICATES REMOVED)

=> s L5 NOT L12
L13           20 L5 NOT L12

=> d l13 ibib ti abs 1-20

L13  ANSWER 1 OF 20  CAPLUS  COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER:         1999:673082  CAPLUS
DOCUMENT NUMBER:          131:307679
TITLE:                    Minimal recombinant adenovirus gene transfer vector
                          containing VAI or VAII genes
INVENTOR(S):              Kochanek, Stefan; Schiedner, Gudrun
PATENT ASSIGNEE(S):       Baylor College of Medicine, USA
SOURCE:                   PCT Int. Appl., 73 pp.
                          CODEN: PIXXD2
DOCUMENT TYPE:            Patent
LANGUAGE:                 English
FAMILY ACC. NUM. COUNT:   1
PATENT INFORMATION:

     PATENT NO.           KIND   DATE        APPLICATION NO.          DATE
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     WO 9953089            A1    19991021    WO 1999-US6522           19990413
         W:  AU, CA, JP, ZA
         RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL,
             PT, SE
     US 5981225            A     19991109    US 1998-60828            19980416
     AU 9936358            A1    19991101    AU 1999-36358            19990413
PRIORITY APPLN. INFO.:                       US 1998-60828       A    19980416
                                             WO 1999-US6522      W    19990413
TI   Minimal recombinant adenovirus gene transfer vector containing VAI or VAII
     genes
AB   Claimed are a gene transfer vector comprising adenovirus inverted terminal
     repeats, at least one adenovirus packaging signal, and an adenoviral VAI
     gene and/or VAII gene; recombinant adenovirus particles containing the same; a
     method for producing the same and a method of use of the same to introduce
     and express a foreign gene in adenovirus target cells.  The vector
     contains a min. of viral genetic material, allowing for a large carrying
     capacity for foreign genetic material, and used the VAI and/or VAII genes
     because their encoded RNAs are important in protein synthesis in infected
     cells.  The inverted terminal repeats can, when placed adjacent to each
     other on a circular plasmid, form the required packaging signal, and have
     a unique restriction site separating them.
REFERENCE COUNT:          6     THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS
                                RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L13  ANSWER 2 OF 20  CAPLUS  COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER:         1996:58252  CAPLUS
DOCUMENT NUMBER:          124:78726
TITLE:                    DNA construct for effecting homologous recombination
                          and uses for recombinant protein production
INVENTOR(S):              Treco, Douglas A.; Heartlein, Michael W.; Selden,
                          Richard F.
```

PATENT ASSIGNEE(S): Transkaryotic Therapies, Inc., USA
SOURCE: PCT Int. Appl., 147 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 10
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9531560	A1	19951123	WO 1995-US6045	19950511
W: AM, AT, AU, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LT, LU, LV, MD, MG, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TT				
RW: KE, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
US 5641670	A	19970624	US 1994-243391	19940513
CN 1119545	A	19960403	CN 1994-107587	19940602
AU 9525504	A1	19951205	AU 1995-25504	19950511
AU 709058	B2	19990819		
EP 759082	A1	19970226	EP 1995-919831	19950511
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE				
BR 9507874	A	19970819	BR 1995-7874	19950511
JP 10500570	T2	19980120	JP 1995-529826	19950511
FI 9604536	A	19970109	FI 1996-4536	19961112
NO 9604802	A	19970109	NO 1996-4802	19961112

PRIORITY APPLN. INFO.:

US 1994-243391	A	19940513
US 1991-787840	B2	19911105
US 1991-789188	B2	19911105
US 1992-911533	B2	19920710
US 1992-985586	B2	19921203
WO 1995-US6045	A	19950511

TI DNA construct for effecting homologous recombination and uses for recombinant protein production

AB The invention relates to constructs comprising: a) a targeting sequence; b) a regulatory sequence; c) an exon; and d) an unpaired splice-donor site. The invention further relates to a method of producing protein in vitro or in vivo comprising the homologous recombination of a construct as described above within the cell. The homologously recombinant cell is then maintained under conditions which will permit transcription and transition, resulting in protein expression. The present invention further relates to homologously recombinant cells, including primary, secondary, or immortalized vertebrate cells, methods of making the cells, methods of homologous recombination to produce fusion genes, methods of altering gene expression in the cells, and methods of making a protein in a cell employing the constructs of the invention.

L13 ANSWER 3 OF 20 USPATFULL on STN
ACCESSION NUMBER: 2004:209981 USPATFULL
TITLE: Compositions and methods for non-targeted activation of endogenous genes
INVENTOR(S): Harrington, John J., Mentor, OH, UNITED STATES
Sherf, Bruce, Spencer, OH, UNITED STATES
Rundlett, Stephen, Chagrin Falls, OH, UNITED STATES

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2004162416	A1	20040819
APPLICATION INFO.:	US 2001-760897	A1	20010117 (9)

RELATED APPLN. INFO.: Continuation of Ser. No. US 2000-515124, filed on 27

Feb 2000, ABANDONED Division of Ser. No. US 1999-276820, filed on 26 Mar 1999, PENDING Continuation-in-part of Ser. No. US 1999-263814, filed on 8 Mar 1999, ABANDONED Continuation-in-part of Ser. No. US 1999-253022, filed on 19 Feb 1999, PENDING Continuation-in-part of Ser. No. US 1998-159643, filed on 24 Sep 1998, ABANDONED Continuation-in-part of Ser. No. US 1997-941223, filed on 26 Sep 1997, ABANDONED

DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: SHANKS & HERBERT, TransPotomac Plaza, 1033 N. Fairfax St., Suite 306, Alexandria, VA, 22314
NUMBER OF CLAIMS: 57
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 4 Drawing Page(s)
LINE COUNT: 6065
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

TI Compositions and methods for non-targeted activation of endogenous genes

AB The present invention is directed generally to activating gene expression or causing over-expression of a gene by recombination methods in situ. The invention also is directed generally to methods for expressing an endogenous gene in a cell at levels higher than those normally found in the cell. In one embodiment of the invention, expression of an endogenous gene is activated or increased following integration into the cell, by non-homologous or illegitimate recombination, of a regulatory sequence that activates expression of the gene. In another embodiment, the expression of the endogenous gene may be further increased by co-integration of one or more amplifiable markers, and selecting for increased copies of the one or more amplifiable markers located on the integrated vector. In another embodiment, the invention is directed to activation of endogenous genes by non-targeted integration of specialized activation vectors, which are provided by the invention, into the genome of a host cell. The invention also provides methods for the identification, activation, isolation, and/or expression of genes undiscoverable by current methods since no target sequence is necessary for integration. The invention also provides methods for isolation of nucleic acid molecules (particularly cDNA molecules) encoding a variety of proteins, including transmembrane proteins, and for isolation of cells expressing such transmembrane proteins which may be heterologous transmembrane proteins. The invention also is directed to isolated genes, gene products, nucleic acid molecules, to compositions comprising such genes, gene products and nucleic acid molecules, and to vectors and host cells comprising such genes and nucleic acid molecules, that may be used in a variety of therapeutic and diagnostic applications. Thus, by the present invention, endogenous genes, including those associated with human disease and development, may be activated and isolated without prior knowledge of the sequence, structure, function, or expression profile of the genes.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L13 ANSWER 4 OF 20 USPATFULL on STN
ACCESSION NUMBER: 2004:129594 USPATFULL
TITLE: Compositions and methods for non-targeted activation of endogenous genes
INVENTOR(S): Harrington, John J., Mentor, OH, United States
Sherf, Bruce, Spencer, OH, United States
Rundlett, Stephen, Chagrin Falls, OH, United States
PATENT ASSIGNEE(S): Athersys, Inc., Cleveland, OH, United States (U.S. corporation)

	NUMBER	KIND	DATE

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6740503	B1	20040525
APPLICATION INFO.:	US 2000-484317		20000118 (9)

RELATED APPLN. INFO.: Division of Ser. No. US 1999-276820, filed on 26 Mar 1999 Continuation-in-part of Ser. No. US 1999-263814, filed on 8 Mar 1999, now abandoned Continuation-in-part of Ser. No. US 1999-253022, filed on 19 Feb 1999, now abandoned Continuation-in-part of Ser. No. US 1998-159643, filed on 24 Sep 1998, now abandoned Continuation-in-part of Ser. No. US 1997-941223, filed on 26 Sep 1997, now abandoned

DOCUMENT TYPE: Utility
FILE SEGMENT: GRANTED
PRIMARY EXAMINER: Shukla, Ram R.
LEGAL REPRESENTATIVE: Brown, Anne, Athersys, Inc.
NUMBER OF CLAIMS: 19
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 62 Drawing Figure(s); 62 Drawing Page(s)
LINE COUNT: 7716
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

TI Compositions and methods for non-targeted activation of endogenous genes

AB The present invention is directed generally to activating gene expression or causing over-expression of a gene by recombination methods in situ. The invention also is directed generally to methods for expressing an endogenous gene in a cell at levels higher than those normally found in the cell. In one embodiment of the invention, expression of an endogenous gene is activated or increased following integration into the cell, by non-homologous or illegitimate recombination, of a regulatory sequence that activates expression of the gene. The invention also provides methods for the identification, activation, isolation, and/or expression of genes undiscoverable by current methods since no target sequence is necessary for integration. Thus, by the present invention, endogenous genes, including those associated with human disease and development, may be activated and isolated without prior knowledge of the, sequence, structure, function, or expression profile of the genes.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L13 ANSWER 5 OF 20 USPATFULL on STN
ACCESSION NUMBER: 2003:337228 USPATFULL
TITLE: Compositions and methods for non-targeted activation of endogenous genes
INVENTOR(S): Harrington, John J., Mentor, OH, United States
Sherf, Bruce, Spencer, OH, United States
Rundlett, Stephen, Chagrin Falls, OH, United States
PATENT ASSIGNEE(S): Athersys, Inc., Cleveland, OH, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6670185	B1	20031230
APPLICATION INFO.:	US 2000-479123		20000107 (9)

RELATED APPLN. INFO.: Division of Ser. No. US 1999-276820, filed on 26 Mar 1999 Continuation-in-part of Ser. No. US 1999-263814, filed on 8 Mar 1999, now abandoned Continuation-in-part of Ser. No. US 1999-253022, filed on 19 Feb 1999, now abandoned Continuation-in-part of Ser. No. US 1998-159643, filed on 24 Sep 1998, now abandoned Continuation-in-part of Ser. No. US 1997-941223, filed on 26 Sep 1997, now abandoned

DOCUMENT TYPE: Utility

FILE SEGMENT: GRANTED
PRIMARY EXAMINER: Shukla, Ram
LEGAL REPRESENTATIVE: Shanks & Herbert
NUMBER OF CLAIMS: 47
EXEMPLARY CLAIM: 36
NUMBER OF DRAWINGS: 101 Drawing Figure(s); 62 Drawing Page(s)
LINE COUNT: 7433
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
TI Compositions and methods for non-targeted activation of endogenous genes
AB The present invention is directed generally to activating gene expression or causing over-expression of a gene by recombination methods in situ. The invention also is directed generally to methods for expressing an endogenous gene in a cell at levels higher than those normally found in the cell. In one embodiment of the invention, expression of an endogenous gene is activated or increased following integration into the cell, by non-homologous or illegitimate recombination, of a regulatory sequence that activates expression of the gene. The invention also provides methods for the identification, activation, isolation, and/or expression of genes undiscoverable by current methods since no target sequence is necessary for integration. The invention also provides methods for isolation of nucleic acid molecules (particularly cDNA molecules) encoding a variety of proteins. Thus, by the present invention, endogenous genes, including those associated with human disease and development, may be activated and isolated without prior knowledge of the sequence, structure, function, or expression profile of the genes.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L13 ANSWER 6 OF 20 USPATFULL on STN
ACCESSION NUMBER: 2003:257217 USPATFULL
TITLE: Compositions and methods for non-targeted activation of endogenous genes
INVENTOR(S): Harrington, John J., Mentor, OH, UNITED STATES
Sherf, Bruce, Spencer, OH, UNITED STATES
Rundlett, Stephen, Chagrin Falls, OH, UNITED STATES
PATENT ASSIGNEE(S): Athersys, Inc. (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2003180267	A1	20030925
APPLICATION INFO.:	US 2002-331329	A1	20021230 (10)

RELATED APPLN. INFO.: Continuation of Ser. No. US 1999-276820, filed on 26 Mar 1999, PENDING Continuation-in-part of Ser. No. US 1999-263814, filed on 8 Mar 1999, ABANDONED Continuation-in-part of Ser. No. US 1999-253022, filed on 19 Feb 1999, PENDING Continuation-in-part of Ser. No. US 1998-159643, filed on 24 Sep 1998, ABANDONED Continuation-in-part of Ser. No. US 1997-941223, filed on 26 Sep 1997, ABANDONED
DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: SHANKS & HERBERT, 1033 N. FAIRFAX STREET, SUITE 306, ALEXANDRIA, VA, 22314
NUMBER OF CLAIMS: 16
EXEMPLARY CLAIM: 58
NUMBER OF DRAWINGS: 63 Drawing Page(s)
LINE COUNT: 7578
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
TI Compositions and methods for non-targeted activation of endogenous genes
AB The present invention is directed generally to activating gene expression or causing over-expression of a gene by recombination methods

in situ. The invention also is directed generally to methods for expressing an endogenous gene in a cell at levels higher than those normally found in the cell. In one embodiment of the invention, expression of an endogenous gene is activated or increased following integration into the cell, by non-homologous or illegitimate recombination, of a regulatory sequence that activates expression of the gene. In another embodiment, the expression of the endogenous gene may be further increased by co-integration of one or more amplifiable markers, and selecting for increased copies of the one or more amplifiable markers located on the integrated vector. The invention also provides methods for the identification, activation, isolation, and/or expression of genes undiscoverable by current methods since no target sequence is necessary for integration.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L13 ANSWER 7 OF 20 USPATFULL on STN

ACCESSION NUMBER:	2003:253547 USPATFULL
TITLE:	Compositions and methods for non-targeted activation of endogenous genes
INVENTOR(S):	Harrington, John J., Mentor, OH, United States Sherf, Bruce, Spencer, OH, United States Rundlett, Stephen, Chagrin Falls, OH, United States
PATENT ASSIGNEE(S):	Athersys, Inc., Cleveland, OH, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6623958	B1	20030923
APPLICATION INFO.:	US 2000-484996		20000118 (9)

RELATED APPLN. INFO.: Division of Ser. No. US 1999-276820, filed on 26 Mar 1999 Continuation-in-part of Ser. No. US 1999-263814, filed on 8 Mar 1999, now abandoned Continuation-in-part of Ser. No. US 1999-253022, filed on 19 Feb 1999, now abandoned Continuation-in-part of Ser. No. US 1998-159643, filed on 24 Sep 1998, now abandoned Continuation-in-part of Ser. No. US 1997-941223, filed on 26 Sep 1997, now abandoned

DOCUMENT TYPE:	Utility
FILE SEGMENT:	GRANTED
PRIMARY EXAMINER:	Shukla, Ram R.
LEGAL REPRESENTATIVE:	Shanks and Herbert
NUMBER OF CLAIMS:	29
EXEMPLARY CLAIM:	1
NUMBER OF DRAWINGS:	101 Drawing Figure(s); 62 Drawing Page(s)
LINE COUNT:	7700

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

TI Compositions and methods for non-targeted activation of endogenous genes

AB The present invention is directed generally to activating gene expression or causing over-expression of a gene by recombination methods in situ. The invention also is directed generally to methods for expressing an endogenous gene in a cell at levels higher than those normally found in the cell. In one embodiment of the invention, expression of an endogenous gene is activated or increased following integration into the cell, by non-homologous or illegitimate recombination, of a regulatory sequence that activates expression of the gene. In another embodiment, the expression of the endogenous gene may be further increased by co-integration of one or more amplifiable markers, and selecting for increased copies of the one or more amplifiable markers located on the integrated vector. In another embodiment, the invention is directed to activation of endogenous genes by non-targeted integration of specialized activation vectors, which are

provided by the invention, into the genome of a host cell. In one aspect, the invention is directed to a vector that contains a transcriptional regulatory sequence, a positive selectable marker, a negative selectable marker, and an unpaired splice donor site, that functions such that when the vector is integrated into the genome of a cell and splicing occurs between the splice donor on the vector and the splice acceptor in the genome, the positive selectable marker is active and the negative selectable marker is inactive.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L13 ANSWER 8 OF 20 USPATFULL on STN

ACCESSION NUMBER:	2003:209949 USPATFULL
TITLE:	Compositions and method for non-targeted activation of endogenous genes
INVENTOR(S):	Harrington, John J., Mentor, OH, United States Sherf, Bruce, Spencer, OH, United States Rundlett, Stephen, Chagrin Falls, OH, United States
PATENT ASSIGNEE(S):	Athersys, Inc., Cleveland, OH, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6602686	B1	20030805
APPLICATION INFO.:	US 1999-455659		19991207 (9)

RELATED APPLN. INFO.: Division of Ser. No. US 1999-276820, filed on 26 Mar 1999 Continuation-in-part of Ser. No. US 1999-263814, filed on 8 Mar 1999, now abandoned Continuation-in-part of Ser. No. US 1999-253022, filed on 19 Feb 1999, now abandoned Continuation-in-part of Ser. No. US 1998-159643, filed on 24 Sep 1998, now abandoned Continuation-in-part of Ser. No. US 1997-941223, filed on 26 Sep 1997, now abandoned

DOCUMENT TYPE:	Utility
FILE SEGMENT:	GRANTED
PRIMARY EXAMINER:	Shukla, Ram R.
LEGAL REPRESENTATIVE:	Shanks & Herbert
NUMBER OF CLAIMS:	47
EXEMPLARY CLAIM:	1
NUMBER OF DRAWINGS:	101 Drawing Figure(s); 62 Drawing Page(s)
LINE COUNT:	7828

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

TI Compositions and method for non-targeted activation of endogenous genes

AB The present invention is directed generally to activating gene expression or causing over-expression of a gene by recombination methods in situ. The invention also is directed generally to methods for expressing an endogenous gene in a cell at levels higher than those normally found in the cell. In one embodiment of the invention, expression of an endogenous gene is activated or increased following integration into the cell, by non-homologous or illegitimate recombination, of a regulatory sequence that activates expression of the gene. The invention also provides methods for the identification, activation, isolation, and/or expression of genes undiscoverable by current methods since no target sequence is necessary for integration. The invention also provides methods for isolation of nucleic acid molecules (particularly cDNA molecules) encoding a variety of proteins. Thus, by the present invention, endogenous genes, including those associated with human disease and development, may be activated and isolated without prior knowledge of the sequence, structure, function, or expression profile of the genes.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L13 ANSWER 9 OF 20 USPATFULL on STN
ACCESSION NUMBER: 2003:142967 USPATFULL
TITLE: Methods of improving homologous recombination
INVENTOR(S): Ivanov, Evguenii, Sharon, MA, United States
PATENT ASSIGNEE(S): Transkaryotic Therapies, Inc., Cambridge, MA, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6569681	B1	20030527
APPLICATION INFO.:	US 2000-525160		20000314 (9)

DOCUMENT TYPE: Utility
FILE SEGMENT: GRANTED
PRIMARY EXAMINER: Reynolds, Deborah J.
ASSISTANT EXAMINER: Bertoglio, Valarie
LEGAL REPRESENTATIVE: Fish & Richardson PC
NUMBER OF CLAIMS: 46
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 0 Drawing Figure(s); 0 Drawing Page(s)
LINE COUNT: 3546
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
TI Methods of improving homologous recombination
AB The invention features a method of promoting an alteration at a selected site in a target DNA, e.g., in the chromosomal DNA of a cell. The method includes providing, at the site: (a) a double stranded DNA sequence which includes a selected DNA sequence; (b) an agent which enhances homologous recombination, e.g., a Rad52 protein or a functional fragment thereof; and (c) an agent which inhibits non-homologous end joining, e.g., an agent which inactivates Ku such as an anti-Ku antibody or a Ku-binding oligomer or polymer, and allowing the alteration to occur. The agent which inhibits non-homologous end joining, e.g., a Ku inactivating agent such as an anti-Ku antibody, is preferably provided locally. Components (a), (b), and (c) can be introduced together, which is preferred, or separately.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L13 ANSWER 10 OF 20 USPATFULL on STN
ACCESSION NUMBER: 2003:89259 USPATFULL
TITLE: Compositions and methods for non-targeted activation of endogenous genes
INVENTOR(S): Harrington, John J., Mentor, OH, United States
Sherf, Bruce, Spencer, OH, United States
Rundlett, Stephen, Chagrin Falls, OH, United States
PATENT ASSIGNEE(S): Athersys, Inc., Cleveland, OH, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6541221	B1	20030401
APPLICATION INFO.:	US 2000-481282		20000111 (9)

RELATED APPLN. INFO.: Division of Ser. No. US 1999-276820, filed on 26 Mar 1999 Continuation-in-part of Ser. No. US 1999-263814, filed on 8 Mar 1999, now abandoned Continuation-in-part of Ser. No. US 1999-253022, filed on 19 Feb 1999, now abandoned Continuation-in-part of Ser. No. US 1998-159643, filed on 24 Sep 1998, now abandoned Continuation-in-part of Ser. No. US 1997-941223, filed on 26 Sep 1997, now abandoned
DOCUMENT TYPE: Utility
FILE SEGMENT: GRANTED

PRIMARY EXAMINER: Shukla, Ram R.
LEGAL REPRESENTATIVE: Shanks & Herbert
NUMBER OF CLAIMS: 6
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 101 Drawing Figure(s); 62 Drawing Page(s)
LINE COUNT: 7638
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
TI Compositions and methods for non-targeted activation of endogenous genes
AB Expression of an endogenous gene is activated or increased following integration into a cell, by non-homologous or illegitimate recombination, of (1) an enhancer sequence that activates expression of the gene and (2) a sequence that encodes an amplifiable marker. The invention also provides methods for the identification, activation, isolation, and/or expression of genes undiscoverable by current methods since no target sequence is necessary for integration. The invention also provides cells containing the enhancer and amplifiable marker sequence and expressing increased amounts of a desired gene. The invention also provides methods for the isolation of nucleic acid molecules (particularly cDNA molecules) encoding a variety of proteins, including transmembrane proteins, and for the isolation of cells expressing such proteins. Thus, by the present invention, endogenous genes, including those associated with human disease and development, may be activated and isolated without prior knowledge of the sequence, structure, function, or expression profile of the genes.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L13 ANSWER 11 OF 20 USPATFULL on STN
ACCESSION NUMBER: 2003:53681 USPATFULL
TITLE: Compositions and methods for non-targeted activation of endogenous genes
INVENTOR(S): Harrington, John J., Mentor, OH, United States
Sherf, Bruce, Spencer, OH, United States
Rundlett, Stephen, Chagrin Falls, OH, United States
PATENT ASSIGNEE(S): Athersys, Inc., Cleveland, OH, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6524824	B1	20030225
APPLICATION INFO.:	US 2000-481355		20000112 (9)

RELATED APPLN. INFO.: Division of Ser. No. US 1999-276820, filed on 26 Mar 1999 Continuation-in-part of Ser. No. US 1999-263814, filed on 8 Mar 1999, now abandoned Continuation-in-part of Ser. No. US 1999-253022, filed on 19 Feb 1999, now abandoned Continuation-in-part of Ser. No. US 1998-159643, filed on 24 Sep 1998, now abandoned Continuation-in-part of Ser. No. US 1997-941223, filed on 26 Sep 1997, now abandoned
DOCUMENT TYPE: Utility
FILE SEGMENT: GRANTED
PRIMARY EXAMINER: Nguyen, Dave T.
ASSISTANT EXAMINER: Shukla, Ram R.
LEGAL REPRESENTATIVE: Shanks & Herbert
NUMBER OF CLAIMS: 3
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 101 Drawing Figure(s); 62 Drawing Page(s)
LINE COUNT: 7588
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
TI Compositions and methods for non-targeted activation of endogenous genes
AB Expression of an endogenous gene is activated or increased following integration into the cell, by non-homologous or illegitimate

recombination, of a regulatory sequence that activates expression of the gene. The invention also provides methods for the identification, activation, isolation, and/or expression of genes undiscoverable by current methods since no target sequence is necessary for integration. The invention also provides methods for the isolation of nucleic acid molecules (particularly cDNA molecules) encoding a variety of proteins, including transmembrane proteins, and for the isolation of cells expressing such transmembrane proteins which may be heterologous transmembrane proteins. Thus, by the present invention, endogenous genes, including those associated with human disease and development, may be activated and isolated without prior knowledge of the sequence, structure, function, or expression profile of the genes.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L13 ANSWER 12 OF 20 USPATFULL on STN

ACCESSION NUMBER:	2003:53676 USPATFULL
TITLE:	Compositions and methods for non-targeted activation of endogenous genes
INVENTOR(S):	Harrington, John J., Mentor, OH, United States Sherf, Bruce, Spencer, OH, United States Rundlett, Stephen, Chagrin Falls, OH, United States
PATENT ASSIGNEE(S):	Athersys, Inc., Cleveland, OH, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6524818	B1	20030225
APPLICATION INFO.:	US 2000-484997		20000118 (9)

RELATED APPLN. INFO.: Division of Ser. No. US 1999-276820, filed on 26 Mar 1999 Continuation-in-part of Ser. No. US 1999-263814, filed on 8 Mar 1999, now abandoned Continuation-in-part of Ser. No. US 1999-253022, filed on 19 Feb 1999, now abandoned Continuation-in-part of Ser. No. US 1998-159643, filed on 24 Sep 1998, now abandoned Continuation-in-part of Ser. No. US 1997-941223, filed on 26 Sep 1997, now abandoned

DOCUMENT TYPE:	Utility
FILE SEGMENT:	GRANTED
PRIMARY EXAMINER:	Shukla, Ram R.
LEGAL REPRESENTATIVE:	Shanks & Herbert
NUMBER OF CLAIMS:	4
EXEMPLARY CLAIM:	1
NUMBER OF DRAWINGS:	98 Drawing Figure(s); 62 Drawing Page(s)
LINE COUNT:	7629

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

TI Compositions and methods for non-targeted activation of endogenous genes

AB The present invention is directed generally to activating gene expression or causing over-expression of a gene by recombination methods in situ. The invention also is directed generally to methods for expressing an endogenous gene in a cell at levels higher than those normally found in the cell. In one embodiment of the invention, expression of an endogenous gene is activated or increased following integration into the cell, by non-homologous or illegitimate recombination, of a regulatory sequence that activates expression of the gene. In another embodiment, the expression of the endogenous gene may be further increased by co-integration of one or more amplifiable markers, and selecting for increased copies of the one or more amplifiable markers located on the integrated vector. In another embodiment, the invention is directed to activation of endogenous genes by non-targeted integration of specialized activation vectors, which are provided by the invention, into the genome of a host cell. The invention

also provides methods for the identification, activation, isolation, and/or expression of genes undiscoverable by current methods since no target sequence is necessary for integration. The invention also provides methods for isolation of nucleic acid molecules (particularly cDNA molecules) encoding a variety of proteins, including transmembrane proteins, and for isolation of cells expressing such transmembrane proteins which may be heterologous transmembrane proteins. The invention also is directed to isolated genes, gene products, nucleic acid molecules, to compositions comprising such genes, gene products and nucleic acid molecules, and to vectors and host cells comprising such genes and nucleic acid molecules, that may be used in a variety of therapeutic and diagnostic applications. Thus, by the present invention, endogenous genes, including those associated with human disease and development, may be activated and isolated without prior knowledge of the sequence, structure, function, or expression profile of the genes.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L13 ANSWER 13 OF 20 USPATFULL on STN

ACCESSION NUMBER:	2002:295131 USPATFULL		
TITLE:	Modified factor VIII cDNA		
INVENTOR(S):	Negrier, Claude, Irigny, FRANCE Plantier, Jean Luc, Grigny, FRANCE		
PATENT ASSIGNEE(S):	Aventis Behring GmbH, a German company (non-U.S. corporation)		
	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2002165177	A1	20021107
	US 6800461	B2	20041005
APPLICATION INFO.:	US 2001-880887	A1	20010615 (9)
RELATED APPLN. INFO.:	Division of Ser. No. US 2000-526935, filed on 16 Mar 2000, GRANTED, Pat. No. US 6271025		
	NUMBER	DATE	
PRIORITY INFORMATION:	EP 1999-104050	19990317	
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	APPLICATION		
LEGAL REPRESENTATIVE:	FINNEGAN, HENDERSON, FARABOW, GARRETT &, DUNNER LLP, 1300 I STREET, NW, WASHINGTON, DC, 20005		
NUMBER OF CLAIMS:	6		
EXEMPLARY CLAIM:	1		
LINE COUNT:	402		

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

TI Modified factor VIII cDNA

AB A modified Factor VIII cDNA is described in which the B-domain of the wild-type Factor VIII cDNA has been deleted and a truncated Factor IX intron 1 has been inserted in one or more locatons of the Factor VIII cDNA. Such modified Factor VIII cDNA may be used for a higher yield production of Factor VIII in vitro as well as in a transfervector for gene therapy.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L13 ANSWER 14 OF 20 USPATFULL on STN

ACCESSION NUMBER:	2002:258823 USPATFULL
TITLE:	Episomally replicating vector, its preparation and use
INVENTOR(S):	Baiker, Armin, Lauffen/Neckar, GERMANY, FEDERAL REPUBLIC OF Bode, Jurgen, Schoppenstedt, GERMANY, FEDERAL REPUBLIC OF

Fetzer, Christian, Munchen, GERMANY, FEDERAL REPUBLIC OF
Lipps, Hans-Joachim, Tubingen, GERMANY, FEDERAL REPUBLIC OF
Piechaczek, Christoph, Munster, GERMANY, FEDERAL REPUBLIC OF

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2002142393	A1	20021003
APPLICATION INFO.:	US 2002-59492	A1	20020129 (10)

RELATED APPLN. INFO.: Continuation-in-part of Ser. No. US 1999-412825, filed on 5 Oct 1999, GRANTED, Pat. No. US 6410314

	NUMBER	DATE
PRIORITY INFORMATION:	DE 1998-19848017	19981017

DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: Karen L. Elbing, Ph.D., Clark & Elbing LLP, 101 Federal Street, Boston, MA, 02110-2214
NUMBER OF CLAIMS: 29
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 4 Drawing Page(s)
LINE COUNT: 1044
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
TI Episomally replicating vector, its preparation and use
AB The present invention relates to stably episomally replicating vectors, comprising at least one scaffold/matrix attached region (S/MAR) which binds to nuclear matrix proteins that contain a SAF-A consensus sequence, at least one viral or eukaryotic origin of replication (ORI), at least one transcription unit transcribed in direction towards the S/MAR, and a polyadonylation signal within the S/MAR or in transriptional direction after the S/MAR, cells comprising these, processes for their preparation, and their use, in particular as a medicament or diagnostic.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L13 ANSWER 15 OF 20 USPATFULL on STN
ACCESSION NUMBER: 2002:152458 USPATFULL
TITLE: Episomally replicating vector, its preparation and use
INVENTOR(S): Baiker, Armin, Lauffen/Neckar, GERMANY, FEDERAL REPUBLIC OF
Bode, Jurgen, Schoppenstedt, GERMANY, FEDERAL REPUBLIC OF
Fetzer, Christian, Munchen, GERMANY, FEDERAL REPUBLIC OF
Lipps, Hans-Joachim, Tubingen, GERMANY, FEDERAL REPUBLIC OF
Piechaczek, Christoph, Munster, GERMANY, FEDERAL REPUBLIC OF
PATENT ASSIGNEE(S): MultiGene Biotech GmbH Biozentrum am Hubland, Wurzburg, GERMANY, FEDERAL REPUBLIC OF (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6410314	B1	20020625
APPLICATION INFO.:	US 1999-412825		19991005 (9)

	NUMBER	DATE

PRIORITY INFORMATION: DE 1998-19848017 19981017
DOCUMENT TYPE: Utility
FILE SEGMENT: GRANTED
PRIMARY EXAMINER: Crouch, Deborah
ASSISTANT EXAMINER: Woitach, Joseph T.
LEGAL REPRESENTATIVE: Clark & Elbing LLP
NUMBER OF CLAIMS: 26
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 4 Drawing Figure(s); 4 Drawing Page(s)
LINE COUNT: 838
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
TI Episomally replicating vector, its preparation and use
AB The present invention relates to stably episomally replicating vectors, comprising at least one scaffold/matrix attached region (S/MAR) and at least one viral or eukaryotic origin of replication (ORI), cells comprising these, processes for their preparation, and their use, in particular as a medicament or diagnostic.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L13 ANSWER 16 OF 20 USPATFULL on STN
ACCESSION NUMBER: 2002:152414 USPATFULL
TITLE: Compositions and methods for non-targeted activation of endogenous genes
INVENTOR(S): Harrington, John J., Mentor, OH, United States
Rundlett, Stephen, Chagrin Falls, OH, United States
PATENT ASSIGNEE(S): Athersys, Inc., Cleveland, OH, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6410266	B1	20020625
APPLICATION INFO.:	US 2000-479122		20000107 (9)

RELATED APPLN. INFO.: Division of Ser. No. US 1999-276820, filed on 26 Mar 1999 Continuation-in-part of Ser. No. US 1999-263814, filed on 8 Mar 1999, now abandoned Continuation-in-part of Ser. No. US 1999-253022, filed on 19 Feb 1999, now abandoned Continuation-in-part of Ser. No. US 1998-159643, filed on 24 Sep 1998, now abandoned Continuation-in-part of Ser. No. US 1997-941223, filed on 26 Sep 1997, now abandoned
DOCUMENT TYPE: Utility
FILE SEGMENT: GRANTED
PRIMARY EXAMINER: Crouch, Deborah
ASSISTANT EXAMINER: Brunovskis, Peter
LEGAL REPRESENTATIVE: Shanks & Herbert
NUMBER OF CLAIMS: 49
EXEMPLARY CLAIM: 9
NUMBER OF DRAWINGS: 101 Drawing Figure(s); 62 Drawing Page(s)
LINE COUNT: 7822
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
TI Compositions and methods for non-targeted activation of endogenous genes
AB The present invention is directed generally to activating gene expression or causing over-expression of a gene by recombination methods in situ. The invention also is directed generally to methods for expressing an endogenous gene in a cell at levels higher than those normally found in the cell. In one embodiment of the invention, expression of an endogenous gene is activated or increased following integration into the cell, by non-homologous or illegitimate recombination, of a regulatory sequence that activates expression of the gene. In another embodiment, the expression of the endogenous gene may be further increased by co-integration of one or more amplifiable

markers, and selecting for increased copies of the one or more ampliflable markers located on the integrated vector. In another embodiment, the invention is directed to activation of endogenous genes by non-targeted integration of specialized activation vectors, which are provided by the invention, into the genome of a host cell. The invention also provides methods for the identification, activation, isolation, and/or expression of genes undiscoverable by current methods since no target sequence is necessary for integration. The invention also provides methods for isolation of nucleic acid molecules (particularly cDNA molecules) encoding a variety of proteins, including transmembrane proteins, and for isolation of cells expressing such transmembrane proteins which maybe heterologous transmembrane proteins. The invention also is directed to isolated genes, gene products, nucleic acid molecules, to compositions comprising such genes, gene products and nucleic acid molecules, and to vectors and host cells comprising such genes and nucleic acid molecules, that may be used in a variety of therapeutic and diagnostic applications. Thus, by the present invention, endogenous genes, including those associated with human disease and development, may be activated and isolated without prior knowledge of the sequence, structure, function, or expression profile of the genes.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L13 ANSWER 17 OF 20 USPATFULL on STN

ACCESSION NUMBER:	2002:105965 USPATFULL		
TITLE:	Multiple promoter expression constructs and methods of use		
INVENTOR(S):	Harrington, John J., Mentor, OH, UNITED STATES		
	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2002055172	A1	20020509
APPLICATION INFO.:	US 2000-729416	A1	20001205 (9)
RELATED APPLN. INFO.:	Continuation of Ser. No. US 1999-414369, filed on 7 Oct 1999, ABANDONED		
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	APPLICATION		
LEGAL REPRESENTATIVE:	SHANKS & HERBERT, TransPotomac Plaza, Suite 306, 1033 N. Fairfax St., Alexandria, VA, 22314		
NUMBER OF CLAIMS:	17		
EXEMPLARY CLAIM:	1		
NUMBER OF DRAWINGS:	15 Drawing Page(s)		
LINE COUNT:	2669		

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

TI Multiple promoter expression constructs and methods of use

AB The invention is directed to improved methods for gene expression using vectors with multiple promoters. Multiple promoters are used in nucleic acid constructs to provide increased expression of a desired nucleic acid sequence. The sequence is introduced into a vector by conventional cloning or is expressed from an endogenous sequence in the genome that is activated by the vector containing the multiple promoters.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L13 ANSWER 18 OF 20 USPATFULL on STN

ACCESSION NUMBER:	2002:63710 USPATFULL
TITLE:	Compositions and methods for non-targeted activation of endogenous genes
INVENTOR(S):	Harrington, John J., Mentor, OH, United States Sherf, Bruce, Spencer, OH, United States Rundlett, Stephen, Chagrin Falls, OH, United States
PATENT ASSIGNEE(S):	Athersys, Inc., Cleveland, OH, United States (U.S.

corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6361972	B1	20020326
APPLICATION INFO.:	US 2000-481375		20000110 (9)

RELATED APPLN. INFO.: Division of Ser. No. US 1999-276820, filed on 26 Mar 1999 Continuation-in-part of Ser. No. US 1999-263814, filed on 8 Mar 1999 Continuation-in-part of Ser. No. US 1999-253022, filed on 19 Feb 1999, now abandoned Continuation-in-part of Ser. No. US 1998-159643, filed on 24 Sep 1998, now abandoned Continuation-in-part of Ser. No. US 1997-941223, filed on 26 Sep 1997, now abandoned

DOCUMENT TYPE: Utility
FILE SEGMENT: GRANTED
PRIMARY EXAMINER: Crouch, Deborah
ASSISTANT EXAMINER: Brynovskis, Peter
LEGAL REPRESENTATIVE: Shanks & Herbert
NUMBER OF CLAIMS: 58
EXEMPLARY CLAIM: 16
NUMBER OF DRAWINGS: 101 Drawing Figure(s); 62 Drawing Page(s)
LINE COUNT: 7907
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

TI Compositions and methods for non-targeted activation of endogenous genes

AB The present invention is directed generally to activating gene expression or causing over-expression of a gene by recombination methods in situ. The invention also is directed generally to methods for expressing an endogenous gene in a cell at levels higher than those normally found in the cell. In one embodiment of the invention, expression of an endogenous gene is activated or increased following integration into the cell, by non-homologous or illegitimate recombination, of a regulatory sequence that activates expression of the gene. In another embodiment, the expression of the endogenous gene may be further increased by co-integration of one or more amplifiable markers, and selecting for increased copies of the one or more amplifiable markers located on the integrated vector. In another embodiment, the invention is directed to activation of endogenous genes by non-targeted integration of specialized activation vectors, which are provided by the invention, into the genome of a host cell. The invention also provides methods for the identification, activation, isolation, and/or expression of genes undiscoverable by current methods since no target sequence is necessary for integration. The invention also provides methods for isolation of nucleic acid molecules (particularly cDNA molecules) encoding a variety of proteins, including transmembrane proteins, and for isolation of cells expressing such transmembrane proteins which may be heterologous transmembrane proteins. The invention also is directed to isolated genes, gene products, nucleic acid molecules, to compositions comprising such genes, gene products and nucleic acid molecules, and to vectors and host cells comprising such genes and nucleic acid molecules, that may be used in a variety of therapeutic and diagnostic applications. Thus, by the present invention, endogenous genes, including those associated with human disease and development, may be activated and isolated without prior knowledge of the sequence, structure, function, or expression profile of the genes.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L13 ANSWER 19 OF 20 USPATFULL on STN
ACCESSION NUMBER: 2001:125762 USPATFULL
TITLE: Protein production and delivery
INVENTOR(S): Treco, Douglas A., Arlington, MA, United States

Heartlein, Michael W., Boxborough, MA, United States
Hauge, Brian M., Beverly, MA, United States
Selden, Richard F, Wellesley, MA, United States
PATENT ASSIGNEE(S): Transkaryotic Therapies, Inc., Cambridge, MA, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6270989	B1	20010807
APPLICATION INFO.:	US 1995-406030		19950317 (8)

RELATED APPLN. INFO.: Continuation-in-part of Ser. No. US 1994-243391, filed on 13 May 1994, now patented, Pat. No. US 5641670 Continuation-in-part of Ser. No. US 1992-985586, filed on 3 Dec 1992, now abandoned Continuation-in-part of Ser. No. US 1992-911533, filed on 10 Jul 1992, now abandoned Continuation-in-part of Ser. No. US 1991-787840, filed on 5 Nov 1991, now abandoned Continuation-in-part of Ser. No. US 1991-789188, filed on 5 Nov 1991, now abandoned
DOCUMENT TYPE: Utility
FILE SEGMENT: GRANTED
PRIMARY EXAMINER: Ketter, James
LEGAL REPRESENTATIVE: Fish & Richardson P.C.
NUMBER OF CLAIMS: 356
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 30 Drawing Figure(s); 30 Drawing Page(s)
LINE COUNT: 3829
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
TI Protein production and delivery
AB The invention relates to novel human DNA sequences, targeting constructs, and methods for producing novel genes encoding thrombopoietin, DNase I, and β-interferon by homologous recombination. The targeting constructs comprise at least: a) a targeting sequence; b) a regulatory sequence; c) an exon; and d) a splice-donor site. The targeting constructs, which can undergo homologous recombination with endogenous cellular sequences to generate a novel gene, are introduced into cells to produce homologously recombinant cells. The homologously recombinant cells are then maintained under conditions which will permit transcription of the novel gene and translation of the mRNA produced, resulting in production of either thrombopoietin, DNase I, or β-interferon. The invention further relates to a methods of producing pharmaceutically useful preparations containing thrombopoietin, DNase I, or β-interferon from homologously recombinant cells and methods of gene therapy comprising administering homologously recombinant cells producing thrombopoietin, DNase I, or β-interferon to a patient for therapeutic purposes.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L13 ANSWER 20 OF 20 USPATFULL on STN
ACCESSION NUMBER: 97:54122 USPATFULL
TITLE: Protein production and protein delivery
INVENTOR(S): Treco, Douglas A., Arlington, MA, United States
Heartlein, Michael W., Boxborough, MA, United States
Selden, Richard F., Wellesley, MA, United States
PATENT ASSIGNEE(S): Transkaryotic Therapies, Inc., Cambridge, MA, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5641670		19970624

APPLICATION INFO.: US 1994-243391 19940513 (8)
RELATED APPLN. INFO.: Continuation-in-part of Ser. No. US 1992-985586, filed on 3 Dec 1992, now abandoned which is a continuation-in-part of Ser. No. US 1991-789188, filed on 5 Nov 1991, now abandoned Ser. No. Ser. No. US 1992-911533, filed on 10 Jul 1992, now abandoned And Ser. No. US 1991-787840, filed on 5 Nov 1991, now abandoned
DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Ketter, James S.
LEGAL REPRESENTATIVE: Hamilton, Brook, Smith & Reynolds, P.C.
NUMBER OF CLAIMS: 30
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 15 Drawing Figure(s); 15 Drawing Page(s)
LINE COUNT: 3430
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
TI Protein production and protein delivery
AB The invention relates to constructs comprising: a) a targeting sequence; b) a regulatory sequence; c) an exon; and d) an unpaired splice-donor site. The invention further relates to a method of producing protein in vitro or in vivo comprising the homologous recombination of a construct as described above within a cell. The homologously recombinant cell is then maintained under conditions which will permit transcription and translation, resulting in protein expression. The present invention further relates to homologously recombinant cells, including primary, secondary, or immortalized vertebrate cells, methods of making the cells, methods of homologous recombination to produce fusion genes, methods of altering gene expression in the cells, and methods of making a protein in a cell employing the constructs of the invention.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

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              422   FILE IFIPAT
               11   FILE IMSDRUGNEWS
               33   FILE IMSPRODUCT
                9   FILE IMSRESEARCH
              344   FILE JICST-EPLUS
              260   FILE LIFESCI
             5114   FILE MEDLINE
               11   FILE NIOSHTIC
               12   FILE NTIS
                1   FILE OCEAN
             1902   FILE PASCAL
               23   FILE PHAR
                7   FILE PHARMAML
                1   FILE PHIC
               45   FILE PHIN
              117   FILE PROMT
               28   FILE PROUSDDR
                2   FILE RDISCLOSURE
             3871   FILE SCISEARCH
             2040   FILE TOXCENTER
             2052   FILE USPATFULL
              140   FILE USPAT2
                7   FILE VETB
               11   FILE VETU
              402   FILE WPIDS
                3   FILE WPIFV
              402   FILE WPINDEX
L1              QUE FACTOR(W) VII
                ---------

     FILE 'MEDLINE, BIOSIS, SCISEARCH, CAPLUS, EMBASE, USPATFULL' ENTERED AT
     08:03:07 ON 23 FEB 2005
L2         22271 S FACTOR(W)VII
                 SET PLURALS ON PERM
                 SET ABBR ON PERM
L3          3248 S (SCAFFOLD OR MATRIX)(W)ATTACHMENT(W)REGION
L4            22 S L2 AND L3
L5            22 DUP REM L4 (0 DUPLICATES REMOVED)
L6             8 S SIMESEN,R?/AU
L7          2699 S PEDERSEN,A?/AU
```

```
L8          102 S FAISST,S?/AU
L9        11983 S JENSEN,J?/AU
L10          35 S WEILGUNY,D?/AU
L11           2 S L6 AND L7 AND L8 AND L9 AND L10
L12           2 DUP REM L11 (0 DUPLICATES REMOVED)
L13          20 S L5 NOT L12

=>

---Logging off of STN---


=>
Executing the logoff script...


=> LOG Y

COST IN U.S. DOLLARS                                SINCE FILE      TOTAL
                                                         ENTRY    SESSION
FULL ESTIMATED COST                                      69.12      72.98

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)          SINCE FILE      TOTAL
                                                         ENTRY    SESSION
CA SUBSCRIBER PRICE                                      -1.46      -1.46

STN INTERNATIONAL LOGOFF AT 08:08:53 ON 23 FEB 2005
```